

REMARKS

Claims 1-28 were examined, and are presented for reconsideration along with new claim 29. Claims 1, 14 and 29 are independent. Claims 1-5, 14-18, 22 and 24 are amended herein for the sake of improved clarity and focus.

Objection to the Drawing

Figs. 1-5 of the drawing are said to be missing. However, as shown by the attached copy of two USPTO-stamped postcard receipts, a full set of drawings (“8 sheets, Figs. 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 8, 9, 10, 11, 12, 13, 14”) was filed by Applicant with the specification and other documents upon entry into the US national stage on June 22, 2006. Further, a record copy of the application (including all drawing figures) should have been transmitted to the USPTO by the International Bureau. Accordingly, the objection to the drawing should be withdrawn. For the convenience of the Examiner, a copy of the first two sheets of drawing, which contain Figs. 1-5, is transmitted herewith.

Rejection Under 35 U.S.C. §112, 1st ¶

Claim 24 stands rejected under 35 U.S.C. § 112, 1st ¶, as allegedly lacking support in the specification. The problem appears to stem from the dependency of claim 24 on claim 23. Claim 24 has been amended to depend from claim 22, so that claim 24 is now fully consistent with the specification. Withdrawal of the rejection is therefore in order.

Substantive Claim Amendments

Independent claims 1 and 14 have been amended to specify that the lever is mounted in a marginal portion to provide a region where a suspension can be attached (see page 14, lines 1-2 of the specification), and that the suspension may be adapted to provide boundary conditions which improved the performance (see page 7, lines 1-2 of the specification). Accordingly, these claims no longer cover the embodiment of Fig. 11 in which the lever is at the panel edge. New claim 29 instead covers the embodiment of Fig. 11.

Prior Art Rejections

Graetz (US 2004/0240687) and Bank (US 2001/0033669) are cited by the Office as primary references in rejecting all of the claims, as follows:

- Claims 1-4, 8, 9, 12-17, 21, 23, 25 and 26 are said to be anticipated by Graetz, under 35 U.S.C. §102(e);
- Claims 5, 6, 17, 18, 19, 20, 27 and 28 are said to be unpatentable over Graetz, under 35 U.S.C. §103(a); and
- Claims 1-3, 10, 11, 14-16 and 22 are said to be unpatentable over Bank in view of Azima (US 6,332,029), under 35 U.S.C. §103(a).

The rejections are respectfully traversed for at least the following reasons.

Graetz

The Office relies on the embodiment of Graetz's Figure 11, which has a lever 117A, B coupled to the edge of the panel -- not to a marginal portion, as now recited in the amended claims. Although not expressly stated in the disclosure, Fig. 11 of Graetz appears to show the panel supported inboard of the lever (at housing bezels 113A, B) -- not in an outboard region as recited in the amended claims. Since the suspension is not at the boundary of the panel, there is no teaching in Graetz of adapting the suspension to provide boundary conditions which improve the performance, as recited in the claims. Accordingly, Graetz's Fig. 11 embodiment does not anticipate the amended claims. A similar argument applies to the embodiments of Figures 7, 8, 12, 13 and 14 of Graetz, which also have a lever mounted at an edge of the panel.

In Figures 5, 6, 9 and 10 of Graetz, the lever is mounted close to the edge of the panel. However, there is no discussion of the location of a panel suspension and nothing to suggest that the edge portion would represent a suitable location for a panel suspension. Accordingly, these embodiments also do not anticipate the amended claims.

With regard to the §103 rejections based on Graetz, none of the allegedly obvious modifications of Graetz, if made, would make up for the above-noted basic deficiencies of Graetz in respect of the amended claims. Accordingly, these rejections cannot stand scrutiny.

Regarding new claim 29, the use of a return lip allows force to be applied by the exciter substantially normally to the plane of the panel. As described in the last paragraph on page 18 of the specification, this provides pistonic augmentation, particularly below the fundamental bending mode of the combined radiating panel and lever structure. There is no teaching of this arrangement of new claim 29 in Graetz.

Bank and Azima

Paragraph 32 of the Office Action equates the coupler 120 of Bank with the lever of the present invention, and refers to ¶0131 and Fig. 19 of Bank for support. However, Fig. 19 of Bank clearly shows that the coupler 120 is merely a coupling stub as used in the previous embodiments of Bank and is thus not a lever extending at an angle from the plane of the panel as required by the presently claimed invention. The Examiner notes that the stub is described as forming a line of attachment. As set out in ¶0042, the line of attachment is described as extending across the width of the resonant element. Thus, the coupling stub is comparable to the short stub 20 shown, for example, in Fig. 6a of the present invention. The short stub 20 is not the required lever.

Further, the coupler 120 of Bank is coupled near the center of the panel and is not coupled to the panel edge or marginal portion as required by the presently claimed invention. As explained in the present application, the advantage of coupling the lever at or near the edge provides a means to allow the maximum viewable area. This is not possible with the arrangement shown in Fig. 19 of Bank, nor is it suggested in Azima.

As for new claim 29, ¶¶ 34 and 35 of the Office Action assert that this arrangement is known from Bank. However, as explained above, the coupler 120 is not a lever, merely a coupling stub. The Examiner also equates the modal plate 118 of Bank with the return lip of the present invention. However, the modal plate 118 is a passive resonant element which is perforate to reduce sound radiation therefrom (¶¶ 0131 and 0132). As explained in ¶0015, such a passive resonant element acts as a near low loss resistive mechanical load to the transducer and may improve matching to the panel. It is separate from the coupling stub 120 and does not form

a return lip of the coupling stub 120. Thus there is no teaching of the claimed lever system in Graetz.


In the light of the above comments, no combination of Bank and Azima meets all the limitations of any one of independent claims 1, 14 and 29. Accordingly, the claims would not have been obvious over Bank in view of Azima.

Conclusion

It is respectfully submitted that all of the pending claims are in condition for allowance. Prompt and favorable action is earnestly solicited.

Respectfully submitted,

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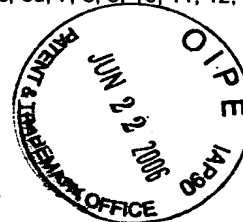
Title: BENDING WAVE PANEL LOUDSPEAKER

Inventor(s): Henry AZIMA et al.

Dkt. No. 085874-0459

Appl. No.: New U.S. National Stage of PCT/GB05/000020 AIC (6/22/06)

- PCT Transmittal of Patent Application (2 pgs.);
- Patent Application Specification (23 pgs.);
- Drawings (8 sheets, Figs. 1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7, 8, 9, 10, 11, 12, 13, 14);
- Information Disclosure Statement (2 pgs.);
- PTO Form SB/08 (1 pg.);
- 5 references (4 WO, 1 GB);
- International Search Report (3 pgs);
- UK Search Report (1 pg);
- Application Data Sheet (4 pgs.);
- Preliminary Amendment (6 pgs.);
- Credit Card Payment Form for \$3,790.00 (1 pg.).



NC

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Fig.1

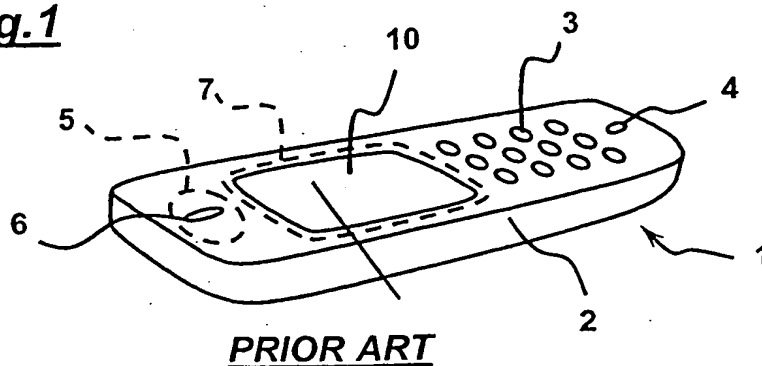


Fig.2

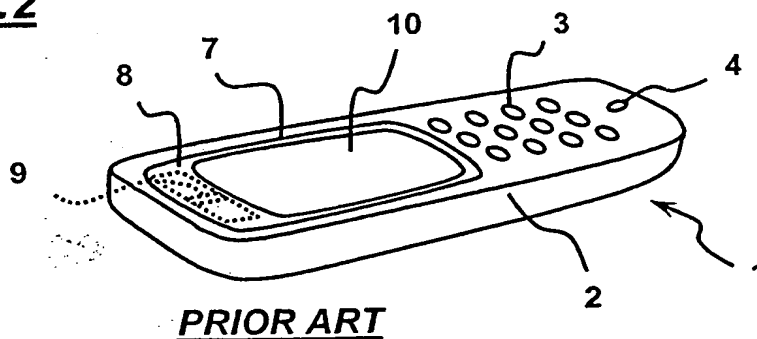


Fig.3

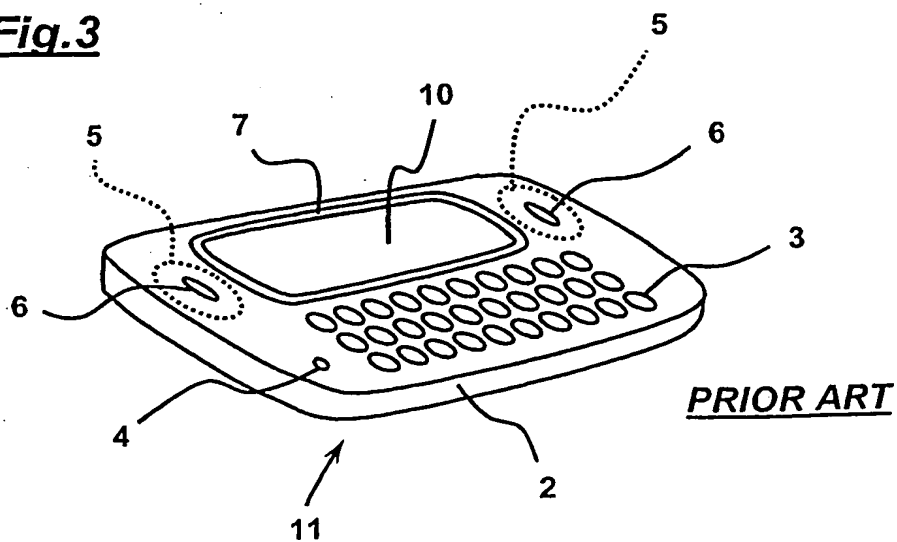
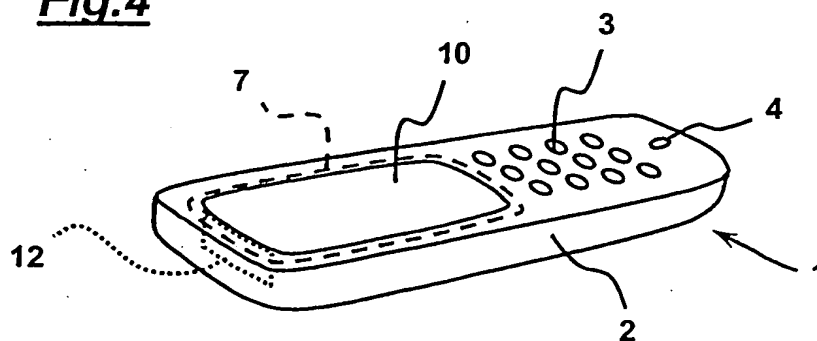


Fig. 4**Fig. 5**